



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,705	03/26/2004	Masaaki Takata	251150US3	8101
22850	7590	11/15/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.			WILSON, GREGORY A	
1940 DUKE STREET			ART UNIT	
ALEXANDRIA, VA 22314			PAPER NUMBER	

3749

DATE MAILED: 11/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/809,705

Applicant(s)

TAKATA ET AL.

Examiner

Gregory A. Wilson

Art Unit

3749

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

Art Unit: 3749

- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

The disclosure is objected to because of the following informalities:

On page 10, line 10, change "kings" to -kinds--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Regarding claim 3, the phrase "and/or" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "and/or"), thereby rendering the scope of the claim(s) unascertainable.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yamaga et al (5,578,132)**. **Yamaga et al** discloses a thermal treatment system for semiconductor processing and includes an outer tube (205), an inner tube (203), a base (202) which supports the lower portion of the outer tube and provides a seal between the lower portion of the outer tube and the base, a lid (212) is provided which opens and closes the opening formed in the base, a reactor wall (209) which surrounds an outer peripheral wall and has a heater (208) provided, an annular sealing member (230a) (SEE Figure 9), an annular support member (232) which is made of Teflon and is located around an outer peripheral side of the sealing member. **Yamaga et al** does not particularly disclose a support member having a material with an effective heat transfer coefficient of 50 to 2,000 W/ (m² x K). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the support member of **Yamaga et al** by choosing a material of suitable heat transfer coefficient, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

Claims 1, 2, 4, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Miyagi et al (5,207,573)**. **Miyagi et al** discloses a thermal treatment apparatus for semiconductors and includes an outer tube (2) having an upper portion closed and a lower portion opened and has a flange formed on an outer peripheral side of the lower portion (SEE Figures 1-3), an inner tube (3) provided around an inner peripheral side of

the outer tube with a gap, a base (11) which supports the lower portion of the outer tube and provides a seal between the lower portion of the outer tube and the base, a lid (10) is provided which opens and closes the opening formed in the base, a reactor wall (9) which surrounds an outer peripheral wall and has a heater (7) provided, an annular sealing member (15) (SEE Figure's 2 & 3), an annular support member (35) which is made of Teflon and is located around an outer peripheral side of the sealing member.

Miyagi et al does not particularly disclose a support member having a material with an effective heat transfer coefficient of 50 to 2,000 W/ (m² x K). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the support member of **Miyagi et al** by choosing a material of suitable heat transfer coefficient, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

Claims 1, 2, 4, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Uchiyama et al (5,902,406)**. **Uchiyama et al** discloses a thermal treatment apparatus for semiconductors and includes an outer tube (72) having an upper portion closed and a lower portion opened and has a flange formed on an outer peripheral side of the lower portion (SEE Figure 1), an inner tube (71) provided around an inner peripheral side of the outer tube with a gap, a base (65) which supports the lower portion of the outer tube and provides a seal between the lower portion of the outer tube and the base, a lid (66) is provided which opens and closes the opening formed in the

Art Unit: 3749

base, a reactor wall (63) which surrounds an outer peripheral wall and has a heater (64) provided, an annular sealing member (68) (SEE Figure 9), an annular support member (86) which is made of a synthetic resin and is located around an outer peripheral side of the sealing member. **Uchiyama et al** does not particularly disclose a support member having a material with an effective heat transfer coefficient of 50 to 2,000 W/ (m² x K). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the support member of **Uchiyama et al** by choosing a material of suitable heat transfer coefficient, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory A. Wilson whose telephone number is (703) 308-1239. The examiner can normally be reached on 7 am - 4:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ira Lazarus can be reached on (703)308-1935. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3749

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**GREGORY WILSON
PRIMARY EXAMINER**

Gregory A. Wilson

Gaw

October 29, 2004